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Letter to the Editor

Clinical and Molecular Studies in Full Trisomy 22: Further Delineation of the Phenotype and Review of the Literature. Reply to Dr. Robinson and Dr. Kalousek

To the Editor:

We read with interest the comments made by Dr. Robinson and Dr. Kalousek regarding our recent paper on trisomy 22 [Bacino et al., 1995]. In the first case studied, we suggested maternal meiosis II as the likely event of non-disjunction for the extra chromosome 22. Dr. Robinson and Dr. Kalousek state that reduction to homozygosity was observed for 4 informative maternal alleles, only 2 of them being heterozygous in each parent, and that this is indicative of a somatic rather than a meiotic event. In other words, the absence of recombinants points in the direction of a somatic, post-zygotic event. We think that more informative markers are needed in order to saturate the entire length of the chromosome to prove this beyond a reasonable doubt. Maternal meiosis II and mitotic non-disjunction are indeed possible in this particular case. If this was the result of a somatic event, there is a chance that undetected mosaicism could play a role in the survival for this patient, and this point is well taken. We have studied as many cells as we possibly could in multiple tissues to address this issue, but we are also aware that the number of cells we analyzed cannot rule out low level mosaicism, so that question still remains unanswered.

In the second case, we took three different sections of the placenta for cytogenetic analysis, one near the cord insertion and two samples from the periphery in opposite sites. The pieces obtained included sections across the thickness of the placenta, which were then minced and treated with collagenase, so the cytotrophoblast cells were represented in this particular sample even though we failed to mention that explicitly in our paper. As Dr. Robinson and Dr. Kalousek point out, extended survival of fetuses with trisomy 13 and 18 has been associated with the presence of disomic cells in the cytotrophoblast [Kalousek et al., 1989] and we were interested in studying this particular point. The issue of the existence of full trisomy 22 remains controversial, and we hope that in the future other clinicians will study multiple tissues in similar circumstances.

Lastly, we would like to point out an error published in the article. In page 363, the last sentence reads "In each paternal lane . . ."; the correct sentence should be "In each parental lane, comparison between the intensity of the two alleles was made."

REFERENCES

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Kalousek DK, Barrett IJ, McGillivray BC (1989): Placental mosaicism and intrauterine survival of trisomies 13 and 18. Am J Hum Genet 44:338–343.

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